WHAT IS CLAIMED IS:

1. A display controller that controls display of color data from a display data source on a display unit, comprising:

a display data source interface that receives color source data described in a first color space from the display data source and outputs interface data described in the first color space using a clock frequency of f;

a resizer that receives the interface data from the display data source interface described in the first color space and that trims and compresses the interface data and outputs resizer data described in the first color space using a clock frequency of f;

a color space converter that receives the resizer data and converts the resizer data into converted data described in a second color space using a clock frequency of f/n, where n is an integer; and

a display unit interface that receives the converted data from the color space converter and that outputs display data described in the second color space to the display unit using a clock frequency of Nf, where N is an integer.

2. A display controller as described in Claim 1 wherein the clock frequency f is 6.5 Mhz; the clock frequency f/n is 3.5 Mhz, where n=2; and the clock frequency Nf is 39 Mhz, where N=6.

3. A display controller as described in Claim 1 wherein the display data source is a digital camera and the display unit is a liquid crystal display (LCD).

4. A display controller as described in Claim 3 wherein the color source data described in the first color space is 8-bit camera data in YUV 4:2:2 format, and the output received color data is in YUV format.

5. A display controller as described in Claim 1 wherein the output resizer data is in 24-bit YUV format.

6. A display controller as described in Claim 1 wherein the first color space is YUV and the second color space is RGB, and the output converted color data is 16-bit RGB data

7. A display controller as described in Claim 1, wherein the display data source interface, the resizer, the color space converter, and the display unit interface comprise a single integrated circuit (IC).

8. A display controller that controls display of color data from a digital camera on a liquid crystal display (LCD), comprising:

a camera interface that receives 8-bit camera color data in YUV 4:2:2 format from the digital camera and outputs camera interface data in YUV format;

a resizer that receives the camera interface data from the camera interface in YUV format and that trims and compresses the camera interface data and outputs 24-bit YUV resizer data;

a color space converter that receives the YUV resizer data and converts the YUV resizer data into 16 bit RGB converted data;

an LCD interface that receives the 16 bit RGB converted data from the color space converter and that outputs 16 bit RGB display data to the liquid crystal display; and

a clock circuit that

supplies a signal having a frequency f to the camera interface as a sampling signal for the 8-bit color camera,

supplies a signal having a frequency f to the camera interface as a clock signal for outputting the color camera interface data,

supplies a signal having a frequency f to the resizer as clock signal for outputting the 24-bit YUV resizer color data,

supplies a signal having a frequency f/n to the color space converter as a clock signal for outputting the 16 bit RGB converted data, where n is an integer, and

supplies a signal having a frequency Nf to the LCD interface as a clock signal for outputting the 16 bit RGB display data, where N is an integer.

9. A method for operating a display controller that controls display of color data from a display data source on a display unit, comprising:

receiving color source data described in a first color space from the display data source and outputting the received color data using a clock frequency of f;

trimming and compressing the received color data and outputting resized color data using a clock frequency of f;

converting the resized color data from the first color space to a second color space and outputting converted color data using a clock frequency of f/n, where n is an integer; and

receiving the converted color data and outputting color display data to the display unit using a clock frequency of Nf, where N is an integer.

10. A method for operating a display controller according to Claim 9, wherein the clock frequency f is 6.5 Mhz; the clock frequency f/n is 3.5 Mhz, where n=2; and the clock frequency Nf is 39 Mhz, where N=6.

11. A method for operating a display controller according to Claim 9, wherein the display data source is a digital camera and the display unit is a liquid crystal display (LCD).

12. A method for operating a display controller according to Claim 11, wherein the color source data described in the first color space is 8-bit camera data in YUV 4:2:2 format, and the output received color data is in YUV format.

13. A method for operating a display controller according to Claim 9, wherein the output resizer data is in 24-bit YUV format.

14. A method for operating a display controller according to Claim 9, wherein the first color space is YUV and the second color space is RGB, and the output converted color data is 16-bit RGB data

15. A medium readable by a machine embodying a program of instructions executable by the machine to perform a method of operating a display controller that controls display of color data from a display data source on a display unit, the method comprising:

receiving color source data described in a first color space from the display data source and outputting the received color data using a clock frequency of f;

trimming and compressing the received color data and outputting resized color data using a clock frequency of f;

converting the resized color data from the first color space to a second color space and outputting converted color data using a clock frequency of f/n, where n is an integer; and

receiving the converted color data and outputting color display data to the display unit using a clock frequency of Nf, where N is an integer.